



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III**

**1650 Arch Street
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JUN 02 2014

John N. Peukert
Chief, Planning and Environmental Branch
Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue, Room 2200
Pittsburgh, PA 15222-4186

Re: Upper Ohio River Navigation Study, Pennsylvania, Draft Feasibility Report and Integrated Environmental Impact Statement- April 2014 (CEQ # 20140116)

Dear Mr. Peukert:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency (EPA) has reviewed the Upper Ohio River Navigation Study, Pennsylvania, Draft Feasibility Report and Integrated Environmental Impact Statement (UONS Study or DEIS).

The UONS is a feasibility-level study to identify the best long-term plan for maintaining safe and reliable navigation on the Upper Ohio River through the analysis period of 2025 - 2074. The study addresses Emsworth, Dashields, and Montgomery Locks and Dams (collectively EDM), originally completed in 1922 to 1936. These facilities provide navigable conditions on the first 31.7 miles of the 981-mile Ohio River and are central in position to the 23 locks and dams on the Allegheny, Monongahela, and Upper Ohio Rivers operated and maintained by the U.S. Army Corps of Engineers (Corps) Pittsburgh District. The Study's feasibility report and integrated DEIS document the formulation and evaluation of plans that address the critical structural condition of the lock walls, lock capacity issues, and ecosystem needs in the study area.

This DEIS evaluates several options for addressing the project needs: Without Project Condition (WOPC) and With Project Condition (WPC). The preferred alternative is LMA 7, consisting of one new 600' river chamber at each site and Reactive Maintenance of the existing land chambers. The new lock chambers will be the same size as the original main chambers (110' wide by 600' long), and will be constructed in the footprint of the original auxiliary



chambers. The original main chambers will continue to operate during construction and then be retained and maintained with a "reactive maintenance" policy. Formulation of the WPC considered potential ecosystem restoration projects that could be included with the navigation NED plan as a Combined Plan but does not recommend ecosystem restoration. In addition, the EDM project requires additional land of sufficient size to construct and operate a concrete batch plant at each of the three lock sites and provide equipment storage, parking, etc. Construction is scheduled to begin in FY 2019.

USEPA commends several aspects of the DEIS and the proposed project:

- a) Consultation with Federal and state resource agencies prior to installation of large, woody debris as part of the mitigation plan at Montgomery embayment;
- b) The decision to include a five-year monitoring period for construction as well as inclusion of contingency costs under adaptive management to permit total replacement of large, woody debris having an estimated functional life of about 25 years;
- c) Implementing aquatic mitigation in advance of lock construction activities that will cause aquatic impacts, thus avoiding temporal impacts;
- d) The decision to prepare and transmit a written report to appropriate Federal and state resource agencies following each monitoring effort;
- e) Inclusion of mitigation objectives, criteria for success, and monitoring for mitigation activities;
- f) The decision to manage for minimum invasive species (< 5% coverage) at terrestrial habitat mitigation sites;
- g) Inclusion of potential beneficial uses of dredge materials; and
- h) Including U.S. Fish and Wildlife Service recommendations submitted as part of a Planning Aid Report Update for the UONS.

As a result of our review of the DEIS, EPA has concerns that a Combined Plan with an ecosystem restoration component is not included as part of the project. The DEIS documents problems associated with locks and dams impacting fish passage, but analysis for incorporating fish passage into this project is inadequate. Without additional specificity, EPA cannot determine: 1) what exactly is meant by "the focus of the design modifications would be on features to improve fish passage efficiency through normal project operations," 2) if these design modifications will be effective in reducing or eliminating the longitudinal connectivity cumulative impact to fish species and mussel species, and 3) if final design modifications to improve fish passage will be reviewed and approved by the U.S. Fish and Wildlife Service (USFWS). If USFWS does not agree with proposed final design modifications to improve fish passage, it is unclear what course the Corps would pursue to mitigate for cumulative impacts to fish and mussel species. The proposed plan is inadequate as written as it does not address this long-standing cumulative impact to certain fish species and mussel species, and EPA recommends the project not proceed until suitable mitigation for fish passage be included in the proposed project plans.

In addition, improvements to the Environmental Justice Assessment for this project should be made. The study lacks a comprehensive assessment of the communities of potential



Environmental Justice (EJ) concern, does not identify at-risk populations or consider the potential impacts of the project on at-risk populations in an objective manner. The study does not provide adequate documentation to support the claims that there are no areas of potential EJ concern in the project area and that there will be no adverse impacts on populations of EJ concern. Please see additional comments attached to this letter.

Other concerns include the failure to address extreme weather conditions related to climate change and the impacts associated with borrow and waste material. A detailed description of these concerns and others is presented in the Technical Comments (enclosed) for your consideration. EPA rated the DEIS an EC-2 (Environmental Concerns/Insufficient Information), which indicates that we have environmental concerns regarding the proposal and that there is insufficient information in the document to fully assess the environmental impacts of this project. A copy of our rating sheet is also enclosed with this letter.

Thank you for the opportunity to review this project. If you have questions regarding these comments, the staff contacts for this project are Barbara Okorn at (215) 814-3330 and Kevin Magerr at (215) 814-5724.

Sincerely,



Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Enclosures





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Technical Comments

Purpose and Need

The DEIS relies on the Ohio River Navigation Investment Model (ORNIM) and the Greenmont Energy Model to justify the economic need for the project. It is not clear if these models and assumptions are reflective of the recent shift (in the last five years) in energy use from coal to natural gas as a result of horizontal drilling of shale gas in the region. The most recent information should be used and evaluated in the EIS.

Waste and Borrow Material

According to the DEIS on page 4-66, "Demolition of either or both chambers and construction of new chambers would generate over one million cubic yards of excess material for disposal, consisting of concrete, river sediment and rock." We recommend the EIS discuss whether some or all of the concrete can be re-used for dam construction. If the concrete cannot be re-used, the EIS should evaluate the disposal of waste as an impact related to the proposed project. This analysis should also include emissions from transport and disruption to residents. The DEIS did not discuss disposition of contaminated construction materials, if any, associated with demolition and appropriate disposal. We also recommend this topic be addressed in the Final EIS.

According to the DEIS on page 4-82, "The requirement for borrow material has been anticipated for this project for estimation purposes. Adequate material should be brought in from predetermined sites to use for the cofferdam cell fill berms." We recommend the UONS be revised to discuss potential borrow sites as well as analyze the impacts of removing material from those sites and the impacts of transporting borrow material to the project sites (i.e., transportation impacts via the highway or the waterway system).

Batch Plant and Laydown Areas

A stormwater management plan should be included in the EIS for these areas.

Flow/Floods/ Climate Change

According to the DEIS on page 3-18, data used for natural discharge frequency flows (1855-1972 data) and river flow for less than 10- year flood frequencies (1966-1997 data) is discussed. We recommend the Final EIS incorporate more recent information for all data related to flow, extreme weather events, and climate change. The EIS should also analyze potential impacts from storm events during construction and potential for damage to cofferdams, etc.

Threatened and Endangered Species

We recommend the project team coordinate annually, at minimum, with the appropriate state and Federal agencies regarding state- and Federally-listed species and species of concern. All coordination correspondence regarding threatened and endangered species should be referenced and included in the EIS.



Invasive species

The EIS should document how this project complies with EO 13112. In addition, we recommend that all areas affected by future construction (i.e., laydown areas) be revegetated with species native to the project area.

Best Management Practices

According to the DEIS on page 4-102, "The use of clean rock fill, upland disposal of excavated materials, and employment of construction best management practices will minimize adverse impacts to adjacent waters." We recommend the document be revised to include a list of BMPs typically associated with this type of activity as well as any other BMPs used. Including such a list will provide reviewers with an idea of the actions that could be taken to reduce impacts to adjacent waters. In particular, we recommend the DEIS be revised to incorporate typical BMPs used for this type of project to protect Sewickley Creek (see page 3-84) if Dashields primary western site adjacent to Little Sewickley Creek will be used for construction.

Biological Studies

According to the DEIS, biological studies were conducted in the Montgomery, Dashields, and Emsworth pools in 2006, 2008, and 2007, respectively. Since construction is not scheduled to begin until FY 2019, it may be beneficial to update the sampling, especially since listed species of fish and mussels were found.

Mussels

According to the DEIS on page 4-103, "There will be no effect on native mussels from construction activities, based on their current status in the project area." We recommend the DEIS be revised to indicate distance between mussel beds and proposed construction. This information should be compared to the distance at which impacts are likely to occur based on coordination with USFWS. This information would substantiate the statement in the DEIS that no effect will occur to native mussels from construction activities. In addition, page 4-103 also states that no new mussel surveys are needed now but does not specify how long they are valid. We recommend coordinating with appropriate state and Federal agencies to determine how long data is valid.

Wetlands

According to the DEIS on page 4-108, "The 2.3-acre pond/wetland area at the Montgomery Secondary work area would not be impacted, as the over site (32.3 acres) is sufficiently large to allow site development to avoid the wetland." We recommend the use of flagging or a more visible barrier to indicate the boundaries of the wetland, and thus the area which must be avoided. We recommend the Final EIS include a commitment to denote the wetland area to ensure it is not accidentally impacted during construction. In addition, reference should be made to the wetland delineation for this project.

Cumulative Impacts to Fish and Mussel Species

According to the DEIS on page 4-147, separable fish passage structures are infeasible; however, strategies could include the operation and design of the navigation facilities themselves. Special



operations of low-use locks specifically for fish passage have been successful in the Pittsburgh District as well as at other Corps projects. The EIS should speak to success rates of projects in the Pittsburgh District as well as at other Corps projects and whether the same fish species are found in these other locations. The DEIS also indicates that incorporation of environmentally sustainable design concepts into engineered structures is supported by the Corps Environmental Operating Principles. A commitment to pursue both of these strategies in navigation feature design is described in the UONS at Section 4.6.9.8.

The DEIS indicates on page 4-116 that operation of the locks and dams would result in continued impediments to longitudinal connectivity, particularly for those species of fish that do not use the locks to move between pools. This may adversely affect spawning success, mussel recruitment, and possibly genetic diversity, and may reduce viability by restricting access to various important habitats. Fish passage efficiencies are being considered as part of this project that could reduce the impediment of dams on fish movement between pools. The DEIS goes on to say that, subsequent to the creation of Ohio River Valley Water Sanitation Commission (ORSANCO) and enactment of the Clean Water Act, water quality standards led to improved conditions of in the Ohio River. Thus, the current status of fish as evidence by the re-colonization of fish species, including intolerant species, is considered substantial. This statement does not, however, speak to the longitudinal connectivity or the lack therefore, due to locks and dams. As stated in the Ohio River Mainstem System Study (ORMSS), there is a need to reduce the negative cumulative impact from locks and dams to longitudinal connectivity; the proposed reconstruction of these three locks and dams provides the perfect opportunity for the Corps to act to reduce the longitudinal connectivity cumulative impact. We recommend the Final EIS discuss types of passages used elsewhere (i.e., Upper Mississippi River, Pittsburgh District, etc.), including their success rates. This information should be compared to the types of passages suggested by FWS based on the suite of fish species requiring longitudinal connectivity in the Ohio River, and, lastly, the resultant options for fish passage from the above two analyses.

Without additional specificity, USEPA cannot determine: 1) what exactly is meant by "the focus of the design modifications would be on features to improve fish passage efficiency through normal project operations," 2) if these design modifications will be effective in reducing or eliminating the longitudinal connectivity cumulative impact to fish species and mussel species, and 3) if final design modifications to improve fish passage will be reviewed and approved by USFWS. If USFWS does not agree with proposed final design modifications to improve fish passage, it is unclear what course the Corps would pursue to mitigate for cumulative impacts to fish and mussel species. The proposed plan is inadequate as written as it does not address this long-standing cumulative impact to certain fish species and mussel species, and USEPA recommends the project not proceed until suitable mitigation for fish passage be included in the proposed project plans.

Environmental Justice

The Environmental Justice Assessment for this project is inadequate. It lacks a comprehensive assessment of the communities of potential Environmental Justice concern, fails to comprehensively identify at-risk populations, fails to consider the vast potential impacts of the



project on at-risk populations in an objective manner, and fails to provide adequate documentation to support the claims that there are no areas of potential EJ concern in the project area and that there will be no adverse impacts on populations of Environmental justice concern. There does not appear to be a comprehensive assessment of low income populations for the Environmental Justice Assessment included in the DEIS.

The assessment should state the percent of low income populations living in the study area and the percentages of low income population in the counties in the study area. The demographic data used in the assessment is from 2008; more recent available information should be used.

No information is provided on populations living in adjacent to the study area at its perimeter. Communities living in adjacent areas may be impacted by the activities being undertaken for this project, and potential impacts should be evaluated in the DEIS. It would be very helpful if maps with greater detail of the study area and adjacent areas was provided for review. Maps showing the proximity of populations to the proposed activities in and adjacent to the work and staging areas would provide greater perspective and detail. In addition, demographic information on low income populations should be included in the document.

The definitions for minority and low income populations are incorrect, vague and confusing. The examples are also misleading. Native American populations do not equate with low income populations, and migrant workers do not equate with minority populations. Please provide clear well documented definitions.

TABLE 3-24: "Census Tracts Affected by this Federal Action", is lacking benchmarking information for the state, as well as complete and comprehensive data on low income populations.

The following quote from the DEIS is of concern: "Due to the fact that there are no minority or low-income populations in the tracts affected, no further action is warranted with respect to EJ. However, the environmental documentation will go through the normal NEPA process and be made available for public review". It should be noted that the Environmental Justice assessment conducted for this project is incomplete, so any findings that there are no areas of Environmental Justice concern in the study area cannot be supported by the old, inadequate and limited data used in the assessment. With such poor information, it is suggested that attempts be made to secure better data and to conduct meaningful and appropriate outreach and community involvement activities.

The following passage is of concern: "There are no effects on socioeconomically disadvantaged communities from any of the lock alternatives or construction support areas. There are no residential areas in the vicinity of the lock sites at Dashields and Montgomery Locks and Dams to be adversely affected by any construction activities. The locks at Emsworth are within a one-mile radius of the communities of Avalon, Ben Avon, and Emsworth. The only potential impact to these communities from lock construction would be noise from impact-generating activities. There is no federal legislation regulating noise control for construction sites. In past instances involving construction at the Emsworth locks and main channel dam, the District has limited



impact-generating noise to daylight hours to minimize any potential impacts to these communities. This limitation will be continued at Emsworth Locks for any of the lock modernization alternatives.” If there are potential noise impacts, there should be attempt made to assess and abate them; the lack of federal regulations for noise should not preclude addressing the concern.

According to the passage that follows, residents may not have use of a park for six years; this appears to be an adverse impact. “There are no effects on socioeconomically disadvantaged communities from any of the lock alternatives or construction support areas. All of the construction support areas, with the exception of the Dashields Secondary Area, are in industrialized or undeveloped areas where normal construction activities would not have adverse impacts on neighboring communities. The Dashields Secondary Area is the present site of a Crescent Township community recreational park. Use of this site would necessitate temporary loss of this recreational resource for the period of construction, anticipated as six years in duration. The District considered this site as a potential construction support area on the basis of proximity to the locks and of federal ownership of a portion of the lands underlying the park, retained from the former lock residences. As a secondary area, the District would consider use of the Crescent Township Park only if the primary area is later found to be unavailable or unsuitable. Should that be the case, the District will work with Crescent Township on acceptable terms for compensation of loss and replacement of park use.”

The Environmental Justice Assessment conducted for this project fails to adequately address the key factors that need to be taken into consideration in an Environmental Justice Assessment. The assessment lacks a comprehensive evaluation of the demographics of the study area, which should be conducted to identify areas of potential Environmental Justice Concern. Information is old, there is little data presented, appropriate benchmarks are missing, detailed maps and diagrams are lacking, no comprehensive evaluation was conducted to look at cumulative impacts. Impacts are not assessed for work in and around the study area, transportation of materials and support equipment through communities, or the work associated with the project on any population that could be reasonably impacted directly or indirectly by this project.

Air Quality

On page 4-107, it is stated that the Corps expects emissions of less than 100 tons per year for fine particulate matter. There should be a demonstration showing how the anticipated fine particulate matter emissions are calculated.



RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections)** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns)** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections)** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:
 1. *Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;*
 2. *Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;*
 3. *Where there is a violation of an EPA policy declaration;*
 4. *Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or*
 5. *Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.*
- **EU (Environmentally Unsatisfactory)** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
 1. *The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;*
 2. *There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or*
 3. *The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.*

RATING THE ADEQUACY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate)** The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **2 (Insufficient Information)** The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.
- **3 (Inadequate)** The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant

environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.